

Abstract

Integrating the partitioning of physical design structures with the physical design process can result in more efficient query execution. When candidate structures are evaluated for their relative benefit, one or more partitioning methods is associated with each structure so that the benefits of various partitioning methods are taken into consideration when the structures are selected for use by the database. A pool of partitioned candidate structures is formed by proposing and evaluating the benefit of candidate structures with associated partitioning on a per query basis. The selected partitioned candidates are then used to construct generalized structures with associated partitioning methods that are evaluated for their benefit over the workload. Those generalized structures are added to the pool of partitioned candidate structures. From this augmented pool of partitioned candidate structures, an optimal set of partitioned structures is enumerated for use by the database system. The space of possible structures can be limited by a preprocessing step that sets up constraints on the column-subsets that can be the basis for candidate structures.